

We claim:

1. A method for modulating apoptotic cell death in a population of cells, comprising modulating the amount of a transcriptional regulator of apoptosis available to bind to a target polynucleotide in the cells, wherein the transcriptional regulator of apoptosis is a member of the Y-box nucleic acid binding family of polypeptides.
2. The method of claim 1, wherein the transcriptional regulator of apoptosis comprises an amino acid sequence selected from the group consisting of:
  - (a) SEQ ID NO: 39;
  - (b) sequences having at least 75% identity to SEQ ID NO: 39; and
  - (c) sequences having at least 90% identity to SEQ ID NO: 39.
3. The method of claim 1, wherein the transcriptional regulator of apoptosis comprises an amino acid sequence selected from the group consisting of:
  - (a) SEQ ID NO: 40;
  - (b) sequences having at least 75% identity to SEQ ID NO: 40; and
  - (c) sequences having at least 90% identity to SEQ ID NO: 40.
4. The method of claim 1, comprising contacting the population of cells with a genetic construct comprising a polynucleotide encoding a polypeptide selected from the group consisting of:
  - (a) human YB-1 (SEQ ID NO: 40); and
  - (b) the cold shock domain in human YB-1 (SEQ ID NO: 39);
  - (c) sequences having at least 75% identity to a sequence of SEQ ID NO: 39 and 40; and
  - (d) sequences having at least 90% identity to a sequence of SEQ ID NO: 39 and 40.
5. The method of claim 1, wherein the cells are selected from the group consisting of: tumor cells; cells of the immune system; embryonic cells; cells of the nervous system; and cells infected with intracellular pathogens.

6. A method for increasing apoptotic cell death in a population of cells, comprising reducing the amount of a transcriptional regulator of apoptosis available to bind to a target polynucleotide in the cells, wherein the transcriptional regulator of apoptosis is a member of the Y-box nucleic acid binding family of polypeptides.
7. The method of claim 6, wherein the transcriptional regulator of apoptosis comprises an amino acid sequence selected from the group consisting of:
  - (a) SEQ ID NO: 39;
  - (b) sequences having at least 75% identity to SEQ ID NO: 39; and
  - (c) sequences having at least 90% identity to SEQ ID NO: 39.
8. The method of claim 6, wherein the transcriptional regulator of apoptosis comprises an amino acid sequence selected from the group consisting of:
  - (a) SEQ ID NO: 40;
  - (b) sequences having at least 75% identity to SEQ ID NO: 40; and
  - (c) sequences having at least 90% identity to SEQ ID NO: 40.
9. The method of claim 6, wherein the cells are tumor cells.
10. The method of claim 6, comprising contacting the population of cells with an anti-sense oligonucleotide directed against the transcriptional regulator of apoptosis.
11. The method of claim 6, comprising contacting the population of cells with a decoy oligonucleotide comprising a transcriptional regulator of apoptosis binding site.
12. A method for modulating apoptotic cell death in a population of cells, comprising modulating the binding of a transcriptional regulator of apoptosis to a regulatory polynucleotide in the cells, wherein the transcriptional regulator of apoptosis is selected from the group consisting of:

- (a) members of the Y-box nucleic acid binding family of polypeptides;
- (b) SEQ ID NO: 39 and 40;
- (c) sequences having at least 75% identity to a sequence of SEQ ID NO: 39 and 40;  
and
- (d) sequence having at least 90% identity to a sequence of SEQ ID NO: 39 and 40.

13. A method for increasing the sensitivity of tumor cells to a DNA-damaging agent, comprising contacting the tumor cells with an oligonucleotide selected from the group consisting of:

- (a) decoy oligonucleotides comprising a transcriptional regulator of apoptosis binding site; and
- (b) anti-sense oligonucleotides directed against a transcriptional regulator of apoptosis;

wherein the transcriptional regulator of apoptosis is a member of the Y-box nucleic acid binding family of polypeptides.

14. A method for increasing p53-mediated apoptosis in a cell population, comprising reducing the amount of a transcriptional regulator of apoptosis available to bind to a target polynucleotide in the cells and thereby increasing expression of p53, wherein the transcriptional regulator of apoptosis is a member of the Y-box nucleic acid binding family of polypeptides.

15. The method of claim 14, wherein the transcriptional regulator of apoptosis is selected from the group consisting of:

- (a) SEQ ID NO: 39;
- (b) sequences having at least 75% identity to SEQ ID NO: 39; and
- (c) sequences having at least 90% identity to SEQ ID NO: 39.

16. The method of claim 15, wherein the transcriptional regulator of apoptosis is selected from the group consisting of:

- (a) SEQ ID NO: 40;

- (b) sequences having at least 75% identity to SEQ ID NO: 40; and
- (c) sequences having at least 90% identity to SEQ ID NO: 40.

17. A method for increasing sensitivity to apoptosis in a population of cells harboring intracellular pathogens, comprising reducing the amount of a cold shock protein available to bind to a target polynucleotide in the cells.

18. A method of stimulating an immune response against an intracellular pathogen in a population of cells harboring the intracellular pathogen, comprising reducing the amount of a cold shock protein available to bind to a target polynucleotide in the cells.

19. A method of screening for an apoptosis modulatory agent, comprising:
- (a) providing a population of cells or cell extract comprising a transcriptional regulator of apoptosis and at least one binding site therefor;
  - (b) determining the level of free transcriptional regulator of apoptosis in the cells or cell extract;
  - (c) contacting the cells or cell extract with a candidate apoptosis modulatory agent; and
  - (d) comparing the level of free transcriptional regulator of apoptosis before and after treatment with the agent,

wherein a reduction in the level of free transcriptional regulator of apoptosis indicates that the agent modulates apoptosis and wherein the transcriptional regulator of apoptosis is a member of the Y-box nucleic acid binding family of polypeptides.

20. A method of screening for an apoptosis modulatory agent, comprising:
- (a) providing a population of cells that express a transcriptional regulator of apoptosis and a transcriptional regulator of apoptosis target polynucleotide;
  - (b) incubating the cells in the presence of a candidate apoptosis modulatory agent; and
  - (c) determining whether the level of mRNA transcripts of the transcriptional regulator of apoptosis target polynucleotide is increased or decreased in the cells,

wherein a reduction in the level of mRNA transcripts indicates that the agent is able to modulate apoptosis and wherein the transcriptional regulator of apoptosis is a member of the Y-box nucleic acid binding family of polypeptides.

21. A method of screening for an apoptotic modulatory agent that modulates the binding of a transcriptional regulator of apoptosis to a target polynucleotide, comprising:

- (a) cotransfecting a cell or cell population with (1) a reporter plasmid comprising a regulatory polynucleotide from the target polynucleotide, or a fragment thereof, operably linked to a heterologous promoter and a reporter gene, and (2) an expression vector encoding the transcriptional regulator of apoptosis polypeptide; and
- (b) determining the effect of a candidate apoptosis modulatory agent on expression of the reporter gene under conditions where the transcriptional regulator of apoptosis polypeptide is overexpressed,

wherein the transcriptional regulator of apoptosis is a member of the Y-box nucleic acid binding family of polypeptides.

22. A method for modulating apoptosis in a patient, comprising administering to the patient a therapeutically effective dose of a composition comprising a pharmaceutically acceptable carrier and an apoptosis modulatory agent identified by the method of any one of claims 19-21.

23. A method for identifying a cell population responsive to treatment with an apoptosis modulatory agent, comprising:

- (a) contacting the cell population with a component selected from the group consisting of:
  - (1) anti-sense oligonucleotides directed against a transcriptional regulator of apoptosis;
  - (2) decoy oligonucleotides comprising a transcriptional regulatory of apoptosis binding site; and
  - (3) polynucleotides encoding a transcriptional regulator of apoptosis; and
- (b) determining whether the level of apoptosis in the cell population is thereby modulated,

wherein the transcriptional regulator of apoptosis is a member of the Y-box nucleic acid binding family of polypeptides.